Carbon Trust accreditation

Powertecnique has gained accreditation for five UPS (uninterruptible power supply) units from its eKasar range from the Government's Energy Technology List (ETL) through the Carbon Trust, meaning customers may claim additional tax relief through enhanced capital allowances when purchasing the equipment.

The Carbon Trust identifies 'the top 20%' of energy efficient products and allows them entry onto the ETL.

Powertecnique sales and marketing director, Peter Chai-Tsai, said: "We're always keen to improve efficiencies for our customers, and this range is designed to deliver maximum protection for critical users, with low impact on the mains power supply. The enhanced capital allowance means businesses can usually claim over five times the standard allowance against a capital purchase, up to 23% of the original investment, just by purchasing an ETL-registered product."

Powertecnique's eKasar units 'have a small footprint, with high operating efficiencies of up to 96.5 per cent'.

Behavioural change is driver

Barts Health NHS Trust has chosen Skanska to deliver a waste management programme designed to save money and improve compliance across its estate.

Delivered by Skanska's FM team, it is centred on a behavioural change programme covering clinical and domestic waste services at three hospital sites – Whipps Cross, Mile End, and Newham. The programme will reduce the Trust's carbon footprint, diverting 100 per cent of non-clinical waste away from landfill.

The contract win follows Skanska's exemplar waste management programme at three other Barts Health NHS Trust sites: St Bartholomew's, The London Chest Hospital, and The Royal London. The team works with hospital staff, auditing the waste streams, and providing regular training on waste disposal. By ensuring hospital staff put the right waste in the right bins, the hospitals are sending no non-clinical waste to landfill, and have cut the cost of 'offensive' waste disposal by £300,000 in the first year.

Meter made

Trend Control Systems has developed a range of four 'easy-to-install, and simple-to-use' sub-meters designed to work with its building energy management systems (BEMS).

"A Carbon Trust field trial showed that, on average, organisations that switched to using advanced metering reduced their carbon emissions by 12 per cent, and achieved financial savings of five per cent via reduced utility consumption," Trend explained. "Sub-metering is also covered under Part L of the Building Regulations, which requires at least 90 per cent of each incoming energy source to be accounted for through sub-metering, and, additionally in larger buildings (over 1,000 m^2), automatic meter reading and data collection facilities."

The multi-phase sub-meters can be integrated into the Trend BEMS, and supplied with the option of either open-collector pulse outputs, or Modbus communications. They are also available for direct connection to the measured supply, or connection using 5A current transformers.

'Virtually free' air conditioning

The heat output of Capstone MicroTurbines can be used to both heat and air condition a healthcare facility via absorption cooling, says Turner EPS, official UK distributor for Capstone Turbine Corporation.

The company says that, in summer months, users' energy bills 'can more than triple' due to higher peak power rates and increased power usage due to air conditioning. "However," it explained, "Capstone systems can optionally chill water or water/glycol with absorption coolers, which use heat energy, instead of electric energy, to create air conditioning. This sounds counter-intuitive, but absorption chilling has been used for decades at tens of thousands of buildings.

"Most absorption chillers burn natural gas to create heat that drives the process, but today quite a few buildings use the 'waste' heat from their microturbines to create both building heating and cooling. This is trigeneration, or CCHP – combined cooling, heating, and power."

Plate heat exchangers' major impact

St George's Hospital, Tooting, is saving £45,000 annually after upgrading the heating and hot water systems in one of its plant rooms to Spirax EasiHeat plate heat exchanger packages.

Five EasiHeat systems now serve the 1,000-bed hospital's Lanesborough wing. Three provide heating, and two deliver domestic hot water in a duty/standby arrangement. Heating was previously provided by three shell-and-tube calorifiers, while four more provided hot water. The subsequent £45,000 savings are a combination of improved energy efficiency and reduced maintenance.

EasiHeat systems use compact steam-to-hot-water plate heat exchangers which deliver heating and hot water on demand, and include a second pass condensate cooler, which helps condense the steam and encourage more efficient heat transfer.

Spirax Sarco said: "Maintenance cost savings are also being achieved. EasiHeats are exempt from insurance inspections."

Multidisciplinary profile for show

Following what the organisers, UBM Live, say are 'high levels of demand for a London energy show', Energy & Environment Expo (formerly Energy Solutions Expo) will re-launch this year at ExCel London. from 17–19 June.

Said to be the capital's largest exhibition of its kind, it will bring together professionals responsible for energy and environmental strategies, being co-located with what is claimed to be the UK's biggest FM event – the Facilities Show – and thus giving visitors access to 'a complete range of whole building solutions'.

The organisers, whose experience of running 'industry-leading events' includes EcoBuild – say they have commissioned 'extensive, independent sector research' to help shape the overall theme, 'Making Buildings Work Better'. They added: "Visitors will have access to a whole range of solutions and businesses – all relating to building management and efficiency."

Radiator considerations

Radiator manufacturer, Stelrad, says its two CPD programmes are now available online.

The initial seminar offered to architects explains the technical differences between serial and parallel feed radiators, highlighting how new serial feed technology 'helps reduce fuel costs and a property's carbon footprint'. It covers 'radiator technology basics', highlighting how current radiators operate using parallel feed technology, where both front and back panels heat up simultaneously.

Also explained is the serial feed technology used in the new Stelrad Radical range, where the front panel heats up first and quickest, and, via factory-fitted thermostatic valve controls, the heated water is allowed into the back panel only when a pre-determined temperature is reached.

The company said: "Because the water leaving the radiator is cooler than from a traditional parallel feed radiator, a condensing boiler will condense more efficiently."

The second seminar highlights Low Surface Temperature (LST) radiators.

'Smart' power quality monitoring

Effective monitoring of power quality and usage in critical medical facilities can reduce costs and avoid availability-of-supply issues caused by so-called 'dirty' power systems suffering interference.

Bender UK's Comtraxx CP700 Condition Monitor 'provides a comprehensive view of energy consumption, and brings transparency to electrical service networks when used in conjunction with Bender Linetraxx power quality monitoring (PQM) systems'.

Bender added: "Monitoring ensures that the power supply quality within the healthcare premises is of the highest standard, and identifies when an issue is due to a complex load, or whether the regional supplier is delivering poor power quality."

The CP700 Condition Monitor intelligent display and control unit has an integral 7-inch touchscreen which enables intuitive on-site operation and clear user customisation, visualisation, and diagnostics, for the Bender UK PQM devices. No programming skills are required for set-up, and the CP700 provides guided fault analysis and dial-in remote access.

CHP's £240,000 annual cash savings

An 850 kWe CHP system supplied by ENER-G to Salisbury District Hospital, which the cogeneration specialist is also maintaining and servicing, is reducing CO_2 emissions at the Salisbury NHS Foundation Trust while releasing annual cash savings of over £240,000.

The CHP and district heating system generate most of the hospital's heating and low temperature hot water requirements, and a third of its electricity needs, while the latter is also feeding hot water and heating to its spinal treatment centre and day surgery unit, located in separate buildings.

Tony McDermott, business development manager (Healthcare) for ENER-G Combined Power, said: "By generating low cost energy, the CHP system will pay for itself within five years. The electricity produced is also exempt from Climate Change Levy carbon taxes. The district heating system provides the perfect constant warm temperature required by people recovering from spinal injuries."

Remote plant operation monitoring

Dunphy's new Internet-based, remote energy centre monitoring system, DunphyDelta, reportedly eliminates the need for new software, cabling, USBs, or extra on-site servers.

By using standard web browsers on PCs, laptops, tablets, or smartphones, the password-protected links allow remote monitoring and control of boilers and burners on one or more remote sites. Multiple web-enabled devices can be given simultaneous data access via a password-protected 'login' screen. DunphyDelta uses end-to-end encryption of data in transit, and secure 'cloud' storage to protect information, while multiple level redundancy across different geographic areas prevents loss of data.

'Near instantaneous' access to real-time operational data is displayed via graphs and reports, with the cost of fuels, water, and electricity, all calculated at individual site values. Full historical analyses are also available. Alongside reporting on the consumption and actual site costs of utilities, reports can be designed to display quantified steam outputs, modulation, boiler sequencing status, and CHP operations.

DunphyDelta also provides immediate operational commands delivered back to boilers and burners to change or modify modulation, sequencing, and other nominated operational control factors.